

WO 2005/017204 A3

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 February 2005 (24.02.2005)

PCT

(10) International Publication Number
WO 2005/017204 A3

- (51) International Patent Classification⁷: C12Q 1/68
- (21) International Application Number: PCT/US2004/023050
- (22) International Filing Date: 16 July 2004 (16.07.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
- | | | |
|------------|----------------------------|----|
| 60/493,158 | 7 August 2003 (07.08.2003) | US |
| 60/553,582 | 16 March 2004 (16.03.2004) | US |
- (71) Applicant (*for all designated States except US*): MONSANTO TECHNOLOGY LLC [US/US]; 800 North Lindbergh Boulevard, St. Louis, MI 63167 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): KOJIMA, Cheryl J. [US/US]; 117 Royal Heights Drive, Knoxville, TN 37920 (US). DU, Fengxing [US/US]; 228 Country Hollow
- (74) Agent: KAMMERER, Patricia, A.; Howrey Simon Arnold & White, LLP, 941 Fairview Park Drive, Box 7, Falls Church, VA 22042 (US).
- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: USE SINGLE NUCLEOTIDE POLYMORPHISM IN THE CODING REGION OF THE PORCINE LEPTIN RECEPTOR GENE TO ENHANCE PORK PRODUCTION

```

GCAGTGGTGAGCACTGGAAAGTTAAATAATTATGTTGGAGACTGCATGTTAACCTTAGA
TACCTCCTATTTATGTCTTAGTCAAAATGATTAATTGCTTTCTATGTGTCTTTAACATGTCCT
AACAGAAATTATTATGTGATAACTGCAATTGACTTG
          E   F    I    Y    V    I    T    A    F    D    L

GCA TAT CCA ATT ACT CCT TGG AAA TTT AAG TTG TCT TGC ATG CCA
          A   Y    P    I    T    P    W    K    F    K    L    S    C    M    P

CCA AAT ACA ACA TAT GAC TTC CTC TTG CCT GCT GGA ATC TCA AAG
          P   N    T    T    Y    D    F    L    L    P    A    G    I    S    K

AAC ACT TCA ACT TTG AAT GGA CAT GAT GAG GCA GTT GTT GAA
          N   T    S    T    L    N    G    H    D    E    A    V    V    E

A[T/C]G GAA CTT AAT [T/A][C/T]A AGT GGT ACC TAC TTA TCA AAC
          M/T   E    L    N    S/I   S   G   T   Y   L   S   N

TTA TCT TCT AAA ACA ACT TTC CAC TGT TGC TTT TGG AGT GAG GAA
          L   S    S    K    T    T    F    H    C    C   F   W   S   E   E

GAT AAA AAC TGC TCT GTA CAT GCA GAC AAC ATT GCA GGG AAG G
          D   K    N    C    S    V    H    A   D   N   I   A   G   K

```

(57) Abstract: The instant invention is drawn to the identification and use of information regarding one or more porcine leptin receptor (pLEPR) gene polymorphisms as a marker to identify animals to serve as breeding stock for enhanced pork production. One particular polymorphism of pLEPR gene results in either a methionine or a threonine amino acid residue at position 69 of the protein that the pLEPR genes encodes. The pLEPR gene is located on porcine chromosome 6 and have been shown to be associated with determination of daily feed intake, among other factors.



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:
21 July 2005

Date of publication of the amended claims:
29 September 2005

Published:

- with international search report
- with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.